



March 8, 1993

Route 3, Box 7  
Gallup, New Mexico  
87301

1993 MAR 22 PM 12:17  
EPA REGION VI  
HAZARDOUS WASTE  
PERMITS DIVISION

Mr. Roger Anderson  
Environmental Bureau Chief  
State of New Mexico Oil Conservation Division  
P.O. Box 2088  
Land Office Building  
Santa Fe, NM 87501-2088

RE: Evaporation Pond Water Release,  
Discharge Permit No. 32

Dear Mr. Anderson:

Giant Refining Company is submitting the following report concerning the accidental release of pond water at our Ciniza Refinery. The report summarizes the events surrounding the release including actions taken to respond to the release, the pond water and Rio Puerco analytical data, and the measures that Ciniza intends to undertake to minimize the possibility of such happening again.

This submittal is also a preliminary notification of a groundwater discharge permit modification. Giant Refining company desires to modify certain conditions of its discharge permit to alleviate the potential for accidental releases of evaporation pond water. The specific modifications to the permit are summarized later on in this submittal.

During the weekend of February 20th and 21st, approximately eight feet of the berm between evaporation pond #7 and #8 (see figure #1) failed, apparently by wave erosion. This failure resulted in pond #7 flowing into pond #8, with pond #8 subsequently overflowing. The water leaving pond #8 was conveyed from the property by natural drainage (See figure 2). This natural drainage conveyance forms a tributary to the South Fork of the Puerco River.

The pond water release was discovered Monday morning, 22 February and work to stop the loss of water began immediately. The work was hampered by the extremely muddy conditions at and around the point where the berms of pond #8 were overtopped. The release of water ceased by approximately 15:30 hours on 22 February after pond #7 had equalized with pond #8. Sometime during the night of 22 February, a small stream of water began to overflow pond #8's berm at the same point as previously. After the stream was sampled the next day, several shovels of dirt were placed to permanently stop the flow.

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The appropriate State, Federal, and Tribal agencies were notified of the release Monday, 22 February. The following is a list of the agencies contacted and the date, approximate time, and person contacted with the release information:

<u>Agency</u>	<u>Date</u>	<u>Time</u>	<u>Contact</u>
1. NMOCD	2/22/93	3:00 p.m.	Roger Anderson
2. Surface Water Division	2/22/93	3:30 p.m.	Bill Bartel
3. EPA Hotline	2/22/93	4:00 p.m.	Petty Officer Lyod
4. EPA Region VI	2/22/93	3:45 p.m.	David Neleigh
5. NM Game & Fish	2/22/93	4:30 p.m.	Jill Castillo-Silvey
6. Navajo EPA	2/23/93	9:30 a.m.	Bonnie Cook
7. Region VI, Water Management Division	2/22/93	3:55 p.m.	Ruth Gibson
8. Region VI, Water Management Division	2/23/93	10:30 a.m.	Cecillia Kevmodle
9. Arizona Department of Env. Quality	2/23/93	2:00 p.m.	Peter Hyde
10. OCD, Aztec Field Office	2/24/93	8:00 a.m.	Denny Foust

By Tuesday, 23 February, conditions had improved enough that heavy equipment could be used to begin a more substantial repair of the breach point on pond #7 berm and the eroded point on the berm of pond #8. Additionally, since another weather front was expected to move through the area within 48 hours, the berms of pond #8 and the berm separating pond #7 from #8 were raised from one to two feet above the existing elevations. Also, over 1,000 bags of sand were shipped to the site for use to protect and reinforce the pond berms.

On Wednesday, 24 February, a high capacity pump was placed in service to transfer water from pond #8 to an adjacent pond. This served to further reduce the effective level in the pond and increase the freeboard of pond #8 dikes. At this time, the company believes that the situation has been corrected and that the potential for any further releases from ponds #7 and #8 have been alleviated.

#### Sampling Activities

On Tuesday, 23 February, samples of pond water overflowing from pond #8 and samples of the Puerco river water were obtained. Analysis performed on the samples included: SW-846 methods 8010 for Halogenated Aromatics, 8020 for Volatile Aromatics; EPA 200.7 ICP scan for priority pollutant metals and major cations/anions for

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general chemistry (See Appendix A). The water samples were retrieved from the overflow point on pond #8 and from the points on the Puerco River just upstream and just downstream from where the natural drainage carrying the water from the release entered. There were no detections of organic constituents. The metal scan results have been summarized for comparison purposes in Table #1. Specific conductance readings were also made at the sampling sites and are shown below.

Pond #8	- 3820 umhos
Puerco River	- 360 umhos

Additional samples were taken from four points within pond #8 on Thursday, 25 February. Those samples were analyzed using SW-846 methods 8020 Volatile Aromatics and 8270 - Semivolatiles, ICP scan and general chemistry. Those results are shown in Appendix B. There were no detections of organic constituents - except for one laboratory contaminant. The metal scan results have been summarized for comparison purposes in Table #2.

### Release Response Actions

To minimize the future potential for accidental releases from our evaporation ponds, Giant is proposing the following actions:

- I. A permit modification to change the frequency of pond inspection to daily from weekly. The proposed inspection program will require visual inspection of all pond berms on a daily basis. Included in the inspection will be the requirements to record pond levels in regards to their freeboards and to document the inspection including responses to deficiencies observed during the inspection. The proposal will include requirements to maintain records for 3 years and a requirement to notify the OCD when certain problems are discovered such as maximum freeboards exceeded or moderate to severe berm erosion.
- II. A permit modification to adopt a revised contingency plan. The proposed revised contingency plan would provide greater detail concerning the response efforts to releases. The plan would also clearly identify the person(s) responsible for initiating the plan and will also provide the authority for that person to expend whatever resources are necessary to respond to a release.
- III. A permit modification to adopt a waste water reduction program. The proposed waste water reduction program would characterize existing conditions as a baseline for annual flow rate reductions and set reasonable goals for the refinery to achieve.

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- IV. Giant will conduct a structural integrity inspection of all the evaporation pond berms. Those not meeting certain standards based on the State Engineer's code for impoundments will be upgraded during this year's summer season.
- V. Giant will develop a plan to lower the existing pond levels to the required freeboards as soon as possible. Giant may seek permission to construct a temporary impoundment to which water from existing ponds may be pumped.

Giant is aware of the seriousness of this situation and intends to completely cooperate with the Oil Conservation Division and all other agencies in their review of these circumstances. Further, Giant is committed to taking all the necessary steps to prevent an accidental pond water release from occurring again.

We encourage the Division and any other agency who may have questions concerning the accident to contact us at (505) 722-3833.

Respectfully yours,



Zeke Sherman  
Environmental Manager  
Ciniza Refinery  
Giant Industries Arizona, Inc.

cc w/o: Carl Shook, Vice President of Refining  
John Stokes, Refinery Manager  
Lynn Shelton, Environmental Supervisor

cc w/: Kim Bullerdick, Corporate Counsel  
Roger Anderson, NMOCD, Santa Fe  
Denny Foust, NMOCD, Aztec  
Bill Bartel, NM Surface Water Division  
Bonnie Cook, Navajo Tribe EPA  
Jill Castillo-Silvey, NM Game & Fish  
Cecillia Kevmodle, EPA Region VI Water Mgmt. Div.  
Peter Hyde, Arizona Dept. of Env. Quality  
Barbara Driscoll, EPA Region VI, HSWA